POLICY LESSONS OF THE LOS ALAMOS FIRE

FOR FEDERAL LANDS

TESTIMONY OF ROBERT H. NELSON TO A JOINT HEARING OF THE SUBCOMMITTEE ON FORESTS AND FOREST HEALTH AND THE SUBCOMMITTEE ON NATIONAL PARKS AND PUBLIC LANDS, COMMITTEE ON RESOURCES, UNITED STATES HOUSE OF REPRESENTATIVES, JUNE 7, 2000, ON "FIRE MANAGEMENT ON FEDERAL LANDS"

My name is Robert H. Nelson. I am a Professor of Environmental Policy at the School of Public Affairs of the University of Maryland and a Senior Fellow of the Competitive Enterprise Institute. From 1975 to 1993, I worked in the Office of Policy Analysis in the Department of the Interior. This office is the principal policy office serving the Secretary of the Interior. I am the author of three books on public land management, The Making of Federal Coal Policy (Duke University Press, 1983), Public Lands and Private Rights (Rowman & Littlefield, 1995) and A Burning Issue: A Case for Abolishing the U.S. Forest Service (Rowman & Littlefield, 2000). I received a Ph.D. in economics from Princeton University in 1971.

The Los Alamos forest fire began as a prescribed fire on Bandelier National Monument. Once it got out of control, it soon moved onto the Santa Fe National Forest, where it took a path leading to the city of Los Alamos and Los Alamos National Laboratory. Fire fighters found that their efforts to control the fire on the Santa Fe National Forest were almost entirely ineffectual in high winds and on lands in such a severe fire-prone condition. The total area burned on Bandelier National Monument was 802 acres. More than 27,000 acres burned on Santa Fe National Forest including areas in close proximity to the city and laboratory. My testimony will address the question of how to reduce the very high fire hazard that currently exists on many national forests and other federal lands in the West.

The principal conclusions of my testimony can be summarized as follows.

1. Leading forestry experts have been warning since the early 1990s that very dangerous fire conditions were building up on the forests of the interior West. These conditions were putting western lives and property at increasing risk.

2. The response of the federal government has been inadequate to the growing magnitude of the problem, as various investigations including reports by the General Accounting Office to the Congress have previously found.

3. The failure to take effective federal policy action has reflected a wider state of gridlock within the federal land management agencies with respect to many aspects of federal policy making for the national forests and other public lands in the West.

4. The Los Alamos fire was not an isolated incident. The fact that such a large fire occurred near Los Alamos and the specific path of the blaze were of course chance events. However, it was likely that one or more such large fires might well break out at some place in the West this year under the dry weather conditions that have prevailed thus far.

5. Unless drastic corrective actions are taken, it can be reliably predicted that similar fires will occur at other western locations and in future years when there are similar forest and climatic conditions.

Fire Warnings and Government Responses: A Brief Chronology

It may help to develop a brief chronology of official government and other reports warning of the growing fire hazard to the West.

November 1993 – A panel of leading American foresters meets in Sun Valley, Idaho, to discuss deteriorating forest conditions in the west. Its report states that the policy of suppressing forest fire, as has been followed in western forests for most of the twentieth century, has resulted in a large buildup of "excess fuels" that are posing an increasingly severe hazard of large and potentially catastrophic forest fires:

> "Wildfires in these ecosystems have gone from a high-frequency, low-intensity regime which sustained the system, to numerous high-intensity fires that require costly suppression attempts, which often prove futile in the face of overpowering fire intensity. High fuel loads resulting from the long-time absence of fire, and the abundance of dead and dying trees, result in fire intensities that cause enormous damage to soils, watersheds, fisheries, and other ecosystem components."

1994 – The National Commission on Wildfire Disasters declares that "millions of acres of forest in the western United States pose an extreme fire hazard from the extensive build-up of dry, highly flammable forest fuels."

May 1995 – The U.S. Forest Service publishes *Course to the Future: Repositioning Fire and Aviation Management*, declaring that under current policies "the potential for large, catastrophic wildfires continues to increase" and when they occur, as they inevitably will, "it will directly conflict with our ecosystem goals."

December 1995 – The U.S. Secretaries of Agriculture and of the Interior jointly issue a report on *Federal Wildland Fire Management*, stating that "millions of acres of forests and rangelands [are] at extremely high risk for devastating forest fires to occur." The Secretaries declare that many forested areas are "in need of immediate treatment" to reduce fire hazards. The methods can be "mechanical, chemical, biological, and manual methods, including the use of fire" under controlled conditions. Such controlled fires might either be set deliberately or be natural fires that are allowed to continue burning. The Secretaries pledge to initiate steps to reduce excess fuels accumulations on federal forested lands.

April 1997 – A panel of leading foresters, convened by Representative Charles Taylor of North Carolina, presents its findings to the Congress, reiterating previous warnings about the interior West and further declaring that "fires in the Pacific Northwest occur less frequently than in the inland West, but can be even more catastrophic because of the high fuel volumes (dead trees). The limited road system and infrastructure make federal lands in this region increasingly susceptible to catastrophic fires. The trend is toward increasing fires in [both] the Inland West and the Pacific Coast."

September 1998 – Barry Hill, Associate Director for Energy, Resources, and Science issues of the General Accounting Office, testifies to the Congress that as a result of past policies of fire suppression in the interior West, "vegetation accumulated, creating high levels of fuels for catastrophic wildfires and transforming much of the region into a tinderbox." Urgent measures are required because "these fires not only compromise the forest's ability to provide timber, outdoor recreation, clean water and other resources but they also pose increasingly grave risks to human health, safety and property, especially along the boundaries of forests where population has grown rapidly in recent years."

April 1999 – The General Accounting Office issues a report on *Western National Forests – A Cohesive Strategy is Needed to Address Catastrophic Wildfire Threats*. The report finds that the Forest Service "has not yet developed a cohesive strategy for addressing several factors that present significant barriers to improving the health of the national forests by reducing fuels. As a result, many acres of national forests in the interior West may [still] remain at high risk of uncontrollable wildfire at the end of fiscal year 2015."

February 2000 – The U.S. Forest Service publishes the first reliable estimates of total forest acres facing excess fuels problems and ecological degradation. The new numbers show that the problem is more widespread than previously believed. Fully 60 percent of all Forest Service lands nationwide, involving 118 million acres, are well outside the normal historical scope of fuels stocking densities, before fire suppression began to increase wood and other vegetation levels. In Forest Service Region 3, the region where the City of Los Alamos and the Santa Fe National Forest are located, 85 percent of the forested lands of the national forest system at present are showing adverse ecological effects and increased fire hazards.

April 2000 – Responding to GAO criticisms, the Forest Service publishes its newest plan to address the problem of forest deterioration and excess fuels, *Protecting People and Sustaining Resources in Fire Adapted Ecosystems, A Cohesive Strategy* . Full implementation of the plan will require an increase in spending for forest health treatments and fire prevention from around $100 million per year at present to $800 million per year. Even at these levels, it is projected that the excess fuels problem will be far from fully resolved in 2015.

April 2000 – A citizens group convenes in Los Alamos, New Mexico to discuss warnings of the continuing danger of forest fire in the area. Diana Webb, the chair of the Los Alamos Ecology group, informs the meeting that "It's not a matter of if but when wildfire will again strike the Lab, Los Alamos, and surrounding areas. We can't stress this enough." In December 1999 the Los Alamos National Laboratory had issued a press release in which wildfire was identified "as the greatest threat to Los Alamos operations."

May 2000 – A prescribed burn set May 4 in Bandelier National Monument accidentally gets out of control, spreads to the tinderbox forests of the Santa Fe National Forest, and in adverse weather condition with high winds moves through the national

forest to the city of Los Alamos and the Los Alamos National Laboratory where it requires that 25,000 people be evacuated and causes around $1 billion in damage.

Fire Policy Gridlock

Removing of excess fuels is generally accomplished by the use of prescribed burning, mechanical thinning and harvesting of excess fuels, or some combination of the two. The Forest Service has encountered significant obstacles, however, to both.

Prescribed burning – The ability to use prescribed burning is limited by a variety of formidable obstacles:

1. High cost – The costs can range from $50 to $500 per acre, including necessary precautions against the fire getting out of control. Assuming an average of $250 per acre, prescribed burning of 50 million acres in the West would require cumulative spending of $12.5 billion.

2. Risk to Human Lives and Property – There will always be a risk – if normally small -- that a prescribed fire will get out of control. No system is foolproof. At almost the same time as the Los Alamos fire, another prescribed fire was burning out of control over large acreages in Grand Canyon National Park, postponing the opening of the North Rim.

3. The expansion of the forest/urban "interface" -- In recent years, as suburban development has spread further into forested areas, and private homes and cabins have been built on private lands often interspersed with federal forested lands in the West, the extent of the areas in which prescribed fire can be employed has been further constricted.

4. Risk to Forest Health and Ecological Sustainability -- In many areas of the West, the buildup of excess fuels has reached a point that any fire will burn at high temperatures much above historic norms and is likely to become a crown fire, doing major ecological damage to soils and other desired vegetation (such as large old trees) – even within the site of the planned burn. Further negative impacts may be felt on water quantity and quality.

5. Weather – Prescribed fire can only be employed in appropriate weather conditions. The forest can not be too wet or the fire will not burn; it can not be too dry or the risk of escape will be too great; the winds can not be too high. All this makes it difficult to plan precisely for the use of prescribed fire in advance.

6. Smoke – Wildland fires generate large amounts of smoke, sometimes remaining in the air for long periods, often violating air quality standards and potentially creating other problems such as the recent death and vehicle damage in Florida due to smoke from wildfires blanketing an interstate highway.

7. Public Perceptions – For decades the Forest Service with its Smokey the Bear and other public relations efforts taught the American public to fear forest fire and to regard it

as a virtual "evil" that must be eliminated like smallpox. The powerful legacy of those past efforts still remains strong in the minds of many people.

Mechanical Thinning and Harvesting -- The second option is to cut unwanted trees and other undesired vegetation and to remove it physically. Here as well there are large obstacles.

1. High Cost – In many forest areas the excess vegetation is not worth anything commercially. The Forest Service or other federal land agency will have to pay in order to have the forest thinned and the unwanted trees removed.

2. Environmental Impacts – Mechanical removal of excess fuels may require the use of heavy equipment and may require a road system to get cutting and disposal equipment to the forest sites necessary and to remove the vegetation. The process of cutting the trees and removing them could disturb the immediate sites, cause sediment to be released into water systems, or other negative environmental impacts.

3. Wilderness Values – Mechanical thinning and harvesting of the forest will be precluded in legally designated wilderness areas – now including 35 acres of national forest system land, or 18 percent of the total acreage. Yet, the occurrence of large, high intensity and historically unnatural fires that may start in (or move into) current wilderness areas may not only do widespread ecological damage to the wilderness areas themselves but could also then spread further from these areas to other non-wilderness areas including private lands.

4. Visual Unattractiveness – In lands in the forest/urban interface, home owners and other residents and visitors often object to the visual appearance of forested lands after they have been subject to mechanical removal of excess fuels.

5. Legal hurdles – The existing legal and regulatory framework for tree cutting on public lands is designed to serve the purposes of the old timber harvesting program. This framework needs revision to provide for more effective excess fuels removal. For example, the GAO reported in April 1999 that the Forest Service did not have legal authority to allow a contractor to sell the excess commercially valuable wood removed in a sale that overall had a negative value and thus required a net government payment.

6. Supply Uncertainty – The costs of mechanical removal of excess fuels might be substantially reduced by the development of a biomass industry or other economic innovations to utilize excess fuels in the West in newly commercial ways. However, any new long term private investment in biomass or other facilities – or in private research into these possibilities -- is inhibited by the current uncertainty with respect to the future availability of wood supplies from federal forest lands.

7. Public Perceptions – As a result of past conflicts over the use of clearcutting, the preservation of old growth timber, and other fiercely contested environmental issues, part of the American public has come to regard any harvesting of timber on the national

forests and other federal lands as intrinsically undesirable – and this attitude is often extended to any mechanical removal of excess fuels. The Sierra Club officially advocates a ban on all timber harvesting on national forest lands, which would appear to preclude the use of any future mechanical treatment of excess fuels on these lands.

The Forest Service in recent years has shown a preference for prescribed burning over mechanical treatment. Since fire historically has been a natural event, prescribed burning is commonly seen as a more "natural" forest policy intervention. The current policy of "ecosystem management" puts a high premium on forest actions that are "natural" and that will ultimately work to restore the forest conditions and ecological workings to those preceding the arrival of modern industrial civilization and its impacts on the forests of the West.

The clear preference for prescribed burning has created several problems. There are some areas where prescribed fire can not be used but there is still a reluctance to employ mechanical removal of excess fuels. It is often precisely the lower-elevation parts of the national forests in the interior West that have a past history of frequent low-intensity fires. These areas are likely now to have the highest and most dangerous buildups of excess fuels. These are also areas likely to have the heaviest recreational use and to be in close proximity to private lands and cities.

Hence, the use of prescribed burning is most feasible in the areas of the national forest system that are not the most severely affected by forest health problems and where the risks to lives and property is less. This problem is compounded by the Forest Service use of acreage outcomes to evaluate unit and personnel performance.

The net effect of the above factors has often resulted in inadequate actions being taken to reduce excess fuels. In many areas the government policy has effectively been to hope that the weather will be wet, the wind levels will stay low in times of drought, and to take your chances from there.

Federal Forests Today

The obstacles to either prescribe burning or mechanical treatment have been greater on federal forested lands than state or private land. As shown below in Table 1, 43 percent of non-federal lands are rated in a healthy condition, 37 percent in a state of deteriorating health, and 19 percent as having extreme buildups of excess fuels and otherwise very unhealthy. For the lands in the national forest system, 37 percent are healthy, 35 percent are in deteriorating health, and 28 percent are very unhealthy. For other federal "resource lands" that are outside the national forest system, the corresponding figures are 32 percent in a healthy condition, 45 percent in deteriorating health, and 23 percent very unhealthy.

Lands in the deteriorating health and very unhealthy category both require actions to address problems of excess fuels, ecological degradation and fire hazards. Total forested acres by ownership as shown in Table 1 are as follows: nonfederal land, 458

million acres; national forests, 169 million acres; and other federal land, 49 million acres.

Table 1 – Status of Forest Health, Federal and Non-Federal Forested Lands

Land Ownership	Healthy	Deteriorating Health	Very Unhealthy
Non-Federal	43%	37%	19%
National Forest	37%	35%	28%
Other Federal	32%	45%	23%

Source: USDA Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory, *Historical Fire Regimes by Current Condition Classes* (Missoula, Montana: February 15, 2000).
Note: "Healthy," "Deteriorating Health," and "Very Unhealthy" correspond to the Forest Service categories of "Class 1," "Class 2," and "Class 3" lands, respectively.

The ecological condition and associated fire risk of the forested lands of the national forest system varies considerably from administrative region to region within the Forest Service, as shown below in Table 2. The Santa Fe National Forest that adjoins Los Alamos is in region 3 where only 15 percent of the total national forest lands are rated healthy, 42 percent are in deteriorating health, and 43 percent are very unhealthy. In region 6 in the Pacific Northwest where many of the management controversies concerning the national forests have been fierce, the Forest Service estimates that 14 percent of the national forest lands are now healthy, 47 percent are in deteriorating health, and 39 percent are very unhealthy.

Table 2 – State of Forest Health, Forested Lands in National Forest System, by U.S. Forest Service Region

FS Region	Healthy	Deteriorating Health	Very Unhealthy
Region 1	20%	41%	39%
Region 2	41%	43%	15%
Region 3	15%	42%	43%
Region 4	59%	34%	7%
Region 5	24%	28%	48%
Region 6	14%	47%	39%
Region 8	70%	22%	8%
Region 9	43%	26%	31%

Source: USDA Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory, *Historical Fire Regimes by Current Condition Classes* (Missoula, Montana: February 15, 2000).

The reasons for the poorer current ecological condition and higher fire risks of federal lands are multiple. The Forest Service, true to its longstanding Smokey the Bear mission, pursued fire suppression on its lands with particular zeal for many decades,

often leaving the lands in worse condition to begin with as compared with other nonfederal forest owners. Then, the Congress in the 1970s adopted a new statutory framework for public land management with the enactment of the Forest and Rangelands Renewable Resources Planning Act of 1974, the National Forest Management Act of 1976, and the Federal Land Policy and Management Act of 1976. This legislation put in place mandates for land use planning and various other procedural and substantive requirements. Despite abundant evidence that has been accumulating for many years that the new framework of federal land management is working poorly, the members of Congress have been unable to agree on any replacement approach.

It is not for a lack of knowledge. Echoing the conclusions of many nongovernmental studies, the General Accounting Office informed the Congress in 1997 testimony that "in summary, ... the Forest Service's decision-making process is broken." Land use planning and other new procedural steps required under the 1970s legislation have created wide policy making confusion and in some cases the de facto transfer of control over public land decisions outside the federal agencies themselves. Often relying on language of the 1970s legislation, the courts increasingly have overriden executive decisions. The cumbersome processes of land use planning appeals and many other opportunities for delay and protest have often given new de facto veto powers to outside groups with enough legal and lobbying skill and money.

Rather than establishing accountability, the current management regime on the federal lands is one in which no one is responsible. The events preceding the Los Alamos fire were among the by-products of the current policy and managerial confusion.

The state of federal land gridlock also reflects a growing uncertainty about the mission of the federal lands. For many decades these lands were managed according to a "multiple use" philosophy. While this left wide agency discretion in the specific details of management, it reflected a clear utilitarian goal to maximize human benefits from the multiple-use federal lands in the forms of recreation, timber harvesting, water supplies, grazing and other uses. The enactment of the Endangered Species Act of 1973 and other legislation began to shift the focus to the ecological conditions of the forests for their own sake. This new philosophy has been formally installed in recent years on the national forest system as "ecosystem management" – like multiple use, a management philosophy vague in specific details but considerably clearer in its philosophical and social value implications. Ecosystem management means shifting the focus of management decisions to the future forest conditions in themselves, rather than the human uses of the forests.

The Clinton administration and the Forest Service have acted in the absence of any broad consensus in American society on the merits of this newer philosophical and social value direction for the national forests. This has been reflected in the inability to win approval from the Congress of a formal legislative commitment to the pursuit of ecosystem management on federal forest lands, one possibility that might have replaced the failed framework of federal legislation of the 1970s.

On many state owned "trust" lands, by contrast, the management is required by statute to serve the revenue and other needs of a specific trustee such as the public schools of the state. Studies by Sally Fairfax at the University of California at Berkeley and others have shown that state trust lands are often managed better than federal lands. The ecological condition is better and the future risk of forest fire is less – and the economic gains are also higher -- where the state land managers are freer to routinely and actively intervene to direct future management outcomes in pursuit of a clearer mission.

Federal lands are not only subject to multiple interest group pressures but the swings of shifting ideological trends and fragile public perceptions. It has become increasingly difficult to employ any mechanical method of treating federal forests for excess fuels or other ecological problems. Opponents – and they are basically correct in this regard – brand such mechanical treatment of the forest as a newer form of "timber harvest." Given the negative public perceptions with respect to timber harvesting on public lands, opponents of mechanical methods of excess fuels reductions on western national forests have frequently been able to prevent any use of such methods.

Where prescribed fire can not be used as well, the effective result is a policy of no action, as has occurred over considerable parts of the federal land system in the West. The further result is a continuing build-up of excess fuels, achieving the unhealthy state of conditions found today on federal forested lands as shown above in Tables 1 and 2.

Recommendations

While the Forest Service management system has been gridlocked and the Congressional legislative process stalemated – two sides of the same coin -- the West has been burning. Following Los Alamos, the choices have been more starkly highlighted. The West can no longer afford to wait until some elusive policy and value consensus emerges at the national level. It needs relief in the near term from the wide dangers of catastrophic wild fire. This will require major shifts in policy and forest interventions outside the scope of recent experience of the Forest Service and other federal land management agencies.

1. Make a Clear Commitment -- The federal land agencies have not thus far shown a clear commitment to addressing the problems of excess fuels and fire hazards. Other areas of policy concern such as reducing road construction and increasing the areas of land managed according to wilderness values have commanded a higher priority.

2. Reform Land-Use Planning -- Extensive land use planning of some kind will be required in order to undertake a large scale program of excess fuels removal. Priorities must be set among current danger areas and the best methods of treatment selected. However, current planning systems are likely to be more of an obstacle than an aid to effective fuels treatment actions. The lags from the beginning to end result on the ground can extend for years if not decades. The planning system serves the needs of opponents of government actions of all kinds better than of the agency administrators. Radical cures will be required in this area if any timely actions are to be taken.

3. Employ Mechanical Removal of Excess Fuels and other Vegetation – At present, the federal land agencies are reluctant to employ mechanical methods of excess fuels removal on any widespread scale. They fear a negative public reaction to a perception of a much expanded program of "timber harvesting." The stigma must be removal and the use of mechanical methods must become a routine part of planning for excess fuels treatments.

4. Decentralize Planning and Management Decision Making – The current diffusion of responsibility among national, regional and ground levels, and the second-guessing of so many officials and parties in the fine details of federal forest management has created a serious lack of accountability. National policy makers should set broad policy and then give local forest managers the clear responsibility to implement the policy. Actions required to effectively address excess fuels problems are bound to be very controversial. Local forest managers will need to work closely with the various affected parties. Having done this, they will then need the authority to act decisively. If they fail, they should then be held accountable in the future.

5. Reduce Financial Burdens -- A large scale program of excess fuels reduction will be expensive. In order to speed implementation of the program and to reduce the financial burdens on the federal government, efforts should be made to recover as much of the costs as possible through various means. Many thinning programs may be able to combine noncommercial with commercial timber, thus reducing the payment costs to the government, or allowing for the holding of a positive-value timber sale that would serve ecological as well as timber supply purposes. Encouragement for biomass and other new investments may make otherwise less attractive wood supplies more commercially viable. Administrative costs to the federal government can be reduced by cutting and streamlining the procedural requirements facing forest managers, in line with recommendation 2 above. Part of the costs of excess fuels treatment should be paid by state and local governments and private land owners, much as cost-sharing is in found in soil conservation and many other federal programs. The States and localities should face an incentive to find cost-effective methods of dealing with fire hazards. They have the authority for the regulation of land use and insurance on the private lands that are often interspersed with federal forest lands – and whose presence may require large federal expenditures for their protection. They also have the local taxing authority by which private land owners might contribute more to the payment of the costs of protecting them from forest fire.

<u>Stronger Actions May be Needed</u>

It may not be possible to achieve sharp reductions in excess fuel hazards in the interior West without some "outside-the-box" thinking. For example, the Forest Service manages 47 million acres of forested lands in the West that it now classifies as being very unhealthy (formally "Class 3" lands). (It also managed another 59 million acres in a less severe condition but still in an unhealthy and often deteriorating state that will also

frequently require policy attention and remedial actions). Many of the least healthy lands can only be treated by mechanical methods – at least initially.

If a 15 year schedule were adopted to complete the process on the least healthy lands by mechanical treatments – perhaps followed by burning -- alone, it would require treating about 2 million acres per year with mechanical methods of timber thinning and harvesting. During the decade of the 1980s, the average Forest Service acreage with timber harvesting was less than 500,000 acres per year. Hence, mechanical removal of excess fuels for the most severely unhealthy lands alone would require annual thinning and harvesting on more than four times the amount of acreage affected per year by harvesting activities in the 1980s.

It is doubtful that the Forest Service is either administratively capable of implementing or likely to win public support for such a radical shift in management and policy in a short period. The agency is now widely distrusted in the West and among many outside groups with which it would have to interact. If choices have to be made between the risk of forest fire and other forest values, only the people facing the risk can decide such questions. It is improper for the federal government to demand the sacrifice of western property and potentially lives because it has other higher priorities such as the maintenance of wilderness values over wide areas.

I propose therefore that the Congress consider adopting emergency forest fire legislation that would include a set of procedures along the following lines. Obviously, many variations on these suggestions are possible.

1. State Planning Responsibility -- Each western state government would be authorized to prepare an "excess fuels removal and ecological restoration plan" for all the national forest system and other multiple use federal lands within that state, as well as other lands in the state. The plan would cover 15 years and would include provisions for funding and carrying out mechanical treatment of excess fuels in severely unhealthy areas on federal lands and to assure, for example, future reliable supplies of biomass materials to potential commercial investors.

2. Federal Approval -- The plan would be submitted to a new federal office of the "coordinator with state forest fire planning" for excess fuels removal and ecological restoration. The office would be located outside the existing federal land management agencies – perhaps in the Council on Environmental Quality or the Office of the Secretary of the Interior. The federal government would be required to review state plans, possibly request changes, and ultimately to approve or disapprove the plan.

3. State Implementation Responsibility -- Once a state plan had been federally approved, the state would be responsible for taking actions (in close coordination with the federal land management agencies including possibly formal contracting arrangements) to implement the plan. If necessary to the fulfillment of the plan, the state would be authorized to override the decisions of federal land managers for federal lands, consistent with plan requirements and approval of the federal forest fire office of coordination.

4. Federal and State Shared Funding -- Funding for plan implementation might come from various sources. Some mechanical removals of excess fuels might involve positive-value timber sales. With the approval of the federal forest fire office of coordination, amounts of money up to some limit could be shifted within the existing budgets of the federal land management agencies for the purposes of implementing the state forest fire risk reduction and ecological restoration strategy. Shares of additional funding would be provided equally by the state and federal governments and would have to be obtained through the normal federal and state appropriations processes.

5. Renewal -- The state plan and implementation procedures would be subject to renewal and renegotiation at the end of the 15 year planning horizon.

Whether by this approach or some other, the inaction during the 1990s of the federal land management agencies -- in the face of dire warnings of looming catastrophic wildfire in the west -- shows that radical changes in the framework for federal land management are required. Unless the Congress acts decisively to adopt brand new approaches, the cities and the property owners of the West will continue to face large risks. If it is perhaps necessary to live with some of these risks, perhaps in the service of other forest values, it should be the people of the West – not federal forest administrators – who make such life and death decisions.